progression and bevacizumab 7.5 mg/kg was administered until progression. The model estimated average survival, PFS, drug and administration costs and total costs per patient treated with BCG or CVC. **RESULTS:** BCG treatment results in a mean survival of 1.51 years versus 1.38 years with CVC. Both drug and administration costs were lower with BCG than CVC and the mean total cost per patient treated with BCG was less costly than CVC (€33,153 versus €40,700, respectively). **CONCLUSIONS:** BCG, compared with CVC, gives a greater clinical benefit and is less costly. Therefore, BCG is dominant over CVC and should be considered to be therapy of choice for treating patients with advanced NSCLC.

PCN90

MASS SCREENING FOR COLORECTAL CANCER: ARE ALTERNATIVES TO THE GUAIAC FECAL OCCULT BLOOD TEST COST-EFFECTIVE?

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OBJECTIVES: Implemented in several countries, biennial Guaiac Fecal Occult Blood Test (FOBT) is used as mass screening for Colorectal Cancer. Using Guaiac FOBT as the reference strategy, we estimated the cost-effectiveness of three screening alternatives: biennial Immunological FOBT, Computed Tomography Colonoscopy every 5 and 10 years (respectively CTC-5 and CTC-10). **METHODS:** Over a 30-year horizon and from the perspective of a third-party payer, we developed a partially observed Markov model on a hypothetical cohort of 100,000 subjects at average risk for colorectal cancer. Costs were based on French data. Epidemiological parameters were from the international literature. The incremental net benefit framework was used to describe our results. Then, we performed univariate and probabilistic sensitivity analyses. **RESULTS:** Compared with Guaiac test strategy, each alternative led to an increase in both discounted costs and life-years gained (LYG). The optimal strategy was function of the willingness to pay (WTP). Immunological FOBT resulted in lower prevention rate (14%) than CTC-5 (38%) or CTC-10 (24%). However, the two-year frequency of Immunological FOBT enabled an earlier detection of cancers conducing to higher number of LYG than CTC-10. Outcomes were sensitive to adherence rates. Probabilistic sensibility analysis suggested that below a WTP of 1,807€/LYG, the reference strategy was optimal whilst CTC-10 was preferred between €1807 and €8124 / LYG. Beyond a WTP of €8124/LYG, CTC-5 provided the highest incremental net benefit. Although, Immunological FOBT was subject to extended dominance, it was still optimal for one third of the simulations for a WTP between €15,000 and €120,000/LYG. This result was due to close expected net benefits between Immunological FOBT and CTC-5 and induced uncertainty in the choice of the optimal strategy. **CONCLUSIONS:** From a reasonable willingness to pay of the third-party payer, Guaiac FOBT strategy was no longer optimal for colorectal cancer mass screening.

PCN91

LONG TERM COST-EFFECTIVENESS OF DOCETAXEL PLUS CYCLOPHOSPHAMIDE COMPARED TO DOXORUBICIN PLUS CYCLOPHOSPHAMIDE AS ADJUVANT TREATMENT FOR WOMEN WITH OPERABLE BREAST CANCER

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OBJECTIVES: An economic model was constructed to assess the cost effectiveness of docetaxel/cyclophosphamide (TC) compared with doxorubicin/cyclophosphamide (AC) as adjuvant treatment for women with operable breast cancer. An Australian government perspective was adopted for the analysis. **METHODS:** A cost utility analysis was undertaken for a model population of women with operable breast cancer. The median age at baseline was 51 years. Four cycles of docetaxel (75 **mg/m**^{2}) plus cyclophosphamide (600 **mg/m**^{2}) were compared to four cycles of doxorubicin (60 **mg/m**^{2}) plus cyclophosphamide (600 **mg/m**^{2}). Seven year overall survival and disease free survival results were utilised from a pivotal randomised control trial (Jones et al, 2009). Overall survival was extrapolated to a 35 year model horizon. Utility weights were derived from a valuation study conducted in an Australian general population sample. Expert opinion garnered from a treatment practice survey of clinicians informed the average frequency and type of resources required for diagnosis and treatment of recurrence of disease. **RESULTS:** Adjuvant treatment of operable breast cancer with TC was associated with incremental costs of A$6253, and incremental QALYs (Quality Adjusted Life Years) of 0.48 (at 35 years) when compared to AC. The incremental cost–effectiveness ratio was estimated at approximately A$13,000 per QALY when assessed at 35 years. **CONCLUSIONS:** We found TC to be a highly cost effective intervention as adjuvant treatment of operable breast cancer when compared with AC in the Australian setting.

PCN92

COST-EFECTIVENESS ANALYSIS OF DOCETAXEL VS DOCETAXEL+TRASTUZUMAB AS FIRST LINE THERAPY IN THE TREATMENT OF PATIENTS WITH METATSTASTIC BREAST CANCER HER2/NEU+

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OBJECTIVES: To develop a cost-effectiveness analysis to compare docetaxel vs docetaxel+trastuzumab as first line therapy in the treatment of patients with advanced or metastatic breast cancer HERneu+ from the public health system Perspective in Mexico. **METHODS:** A markov model was built in order to simulate the clinic course of a cohort of patients with metastatic breast cancer HERneu+ in treatment with docetaxel vs docetaxel+trastuzumab as first line treatment. The model include three health states (without progression, progression and death), with a 12- month following. Conceptual frame and clinical course was based on literature review and controlled clinical trials. In order to define resources and procedures to set costs, a literature search for economic evaluation and different disease management alternatives was done. The drugs costs were obtained from the costs of purchasing published by the Mexican Institute of Social Security and included diagnosis, treatment, following and medical support. The clinical benefit of the treatment is to be determined by Progression-Free Survival (PFS). **RESULTS:** Using docetaxel+trastuzumab 49.1% of patients were free of progression and 25.6% of those who used only docetaxel during the 12 months of management; In other words, to maintain a patient free of progression at 12 moths is necessary to treat 2.04 and 3.91 patients with docetaxel+trastuzumab and docetaxel respectively. The expected cost with docetaxel+trastuzumab is US$32,460.87 and with docetaxel US$22,735.74. The cost to maintain a patient free of progression at 12 moths is US$66,085.92 and US$88,899.50 (mean cost effectiveness ratio) and the ICER is US$41,305. **CONCLUSIONS:** Results show that docetaxel+trastuzumab is a cost effective therapy when comparing with docetaxel in first line therapy for patients with metastatic breast cancer.

PCN93

HEALTH ECONOMICS OF HPV VACCINATION IN AUSTRIA—COST-EFFECTIVENESS OF VACCINATING 12 YEAR OLD GIRLS

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OBJECTIVES: Because of an unfavorable health economics assessment commissioned by the Ministry of Health, in Austria HPV vaccination costs are not covered by the government. We have performed an additional assessment based on essentially the same cost data and only slightly different assumptions concerning infection and disease propagation but simulating cohorts for their whole life expectancy. **METHODS:** The applied model is of a hybrid type. The dynamic infection model was formulated as a SIR model with delayed transition from the recovered state into the susceptible state. It was validated by comparison with empirical infection rates for the different HPV strains within age groups. Vaccination of 85% of 12 year old girls was modeled. Two equally sized cohorts of girls were followed from birth to 100 years of life, one vaccinated against HPV types 16 and 18 and one unvaccinated, both were assumed to have unchanged opportunistic screening. All estimates were based on 1000 runs of these cohorts. The infection model was validated by comparison of the unvaccinated cohort with the Austrian incidence and mortality data for the years 2002 to 2007. **RESULTS:** Vaccination of 85% of 12 year old girls resulted in a decrease of mortality by 64% and incidence by 69%. Cervical intraepithelial neoplasias (CIN) were reduced too: 27%, 46% and 49% for CIN1 to CIN3, respectively. Without discounting vaccination was cost saving. Assuming discount rates between 2 and 6% the incremental cost-effectiveness ratio (ICER) was 6,000.- to 21,000.- €/LYG. Sensitivity analyses demonstrate that, except for discount rates, a booster vaccination and no cross-protection against non-vaccine types has the greatest influence on ICER. **CONCLUSIONS:** Also for the Austrian health care system vaccination is cost-effective in the long run, although it's full economic impact is—concerning cervical cancer—seen only after decades.

PCN94

ECONOMIC EVALUATION OF DOCETAXEL IN THE CONTEXT OF BREAST CANCER IN PORTUGAL

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OBJECTIVES: To estimate the cost-effectiveness of docetaxel for breast cancer treatment in adjuvant and metastatic settings. Three comparisons are performed: 3 cycles of fluorouracil, epirubicin and cyclosphophamide followed for 3 cycles of docetaxel (3FEC100-3D) versus 6 cycles of fluorouracil, epirubicin and cyclosphophamide (6FEC100); 6 cycles of fluorouracil, doxorubicin and cyclosphophamide (FAC) versus 6 cycles of docetaxel, doxorubicin and cyclosphophamide (TAC), both as adjuvant treatments; and docetaxel versus paclitaxel in metastatic breast cancer (MBC). **METHODS:** The lifetime Markov model used for the adjuvant setting analysis, developed by Aremis Consultants, considers 6-month cycles and 4 health states: no recurrence; loco-regional recurrence; metastatic recurrence; and death. The model for MBC, created by United Bio Source, lasts for 10 years with 3-week cycles and 3 health states: no progression; progression; and death. Transition probabilities were derived from head-to-head clinical trials. Direct medical costs were estimated for the Society and the tertiary cancer centre Instituto Português de Oncologia de Lisboa (IPOL) perspectives. Resource consumption was based on clinical practice at IPOL (patient-level data). Unit costs were derived from official sources and IPOL data. **RESULTS:** The projected survival advantage was 0.93 years for TAC compared to FAC, with an incremental cost of €8369 for the Society and €8031 for IPOL, and 0.49 years for 3FEC100-3D compared to 6FEC100, with incremental costs below €3700 for either perspective. In both cases, incremental costs per life year gained (ICER) are below €9000. In MBC, the predicted incremental life expectancy with Docetaxel is 6 months, being the incremental cost of around €11,000 for either Society or IPOL. The ICER is €21,905 and €22,329, respectively. Sensitivity analysis shows that these findings are only responsive to changes in the relative clinical gains of docetaxel. **CONCLUSIONS:**

Docetaxel is cost-effective and should be used as adjuvant treatment and considered as therapeutic option for MBC.

PCN95

COST-EFFECTIVENESS OF BEVACIZUMAB COMBINATION THERAPY IN METASTATIC COLORECTAL CANCER: RESULTS OF MARKOV COHORT SIMULATION FROM A SOCIAL PERSPECTIVE IN KOREA

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OBJECTIVES: Bevacizumab, known as VEGF inhibitor, has demonstrated significant activity when it is used with cytotoxic chemotherapy together in metastatic colorectal cancer(mCRC). However, bevacizumab is an expensive medication known as not cost-effectiveness with high ICER(Incremental Cost-Effectiveness Ratio) in other countries. The purpose of this study was to examine the economic efficiency of treating mCRC with bevacizumab plus chemotherapy versus chemotherapy alone from the perspective of the social aspects in Korea. **METHODS:** Markov model was developed to compare the cost and benefits of adding bevacizumab to oxaliplatin plus FU/LV(FOLFOX) or capecitabine plus FU/LV(CapeOX) with FOLFOX or CapeOX alone. We searched clinical documentation, extracted median time to progression and median overall survival from each chemotherapy, and calculated the transition probability and death rate per cycle. Model simulates costs and outcomes in hypothetical cohort of metastatic colorectal cancer for 5 years with 5% discount rate. We included that direct and non-direct medical cost(2009). The ICERs were calculated from incremental life-years gained(LYG) and incremental costs between single and combination therapy. Sensitivity analyses were performed on crucial parameters. **RESULTS:** After markov model simulation for 5 years, FOLFOX+bevacizumab gained 1.58 years/patient and FOLFOX 1.42 years/patient, whereas CapeOX+bevacizumab 1.57 years/patient and CapeOX 1.31 years/patient. Total cost of FOLFOX+bevacizumab, FOLFOX, CapeOX+bevacizumab, CapeOX are ₩88,567,199($70,854), ₩73,938,752($59,151), ₩91,904,773($73,524), ₩43,864,530($35,092), respectively. The ICERs of additional bevacizumab when combined with FOLFOX, CapeOX were ₩89,974,151 ($71,979), ₩181,331,641 ($145,065), respectively, per life year gained, proving very high in both case combination therapy. Sensitivity analysis showed that the price of bevacizumab is a key parameter of its cost-effectiveness. **CONCLUSIONS:** As a result, it is proven that the addition of bevacizumab to FOLFOX, CapeOX in mCRC patients is expensive given clinical benefit in terms of LYG in Korea. This findings may offer one of the useful basic data selecting chemotherapy regimens in treating for mCRC.

PCN96

COLORECTAL CANCER SCREENING: COST-EFFECTIVENESS OF CT COLONOGRAPHY

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OBJECTIVES: Colorectal cancer (CRC) is the third most common cancer in the UK. In 2007 the UK NHS introduced a CRC screening programme using the faecal occult blood test (FOBT) for biennial screening of individuals aged 60 to 69. CT colonography (CTC) is an alternative technology for CRC screening with the potential to prevent cancer by detecting pre-cancerous polyps as well as detecting cancer at an early stage. This economic analysis assessed the cost-effectiveness of CTC for CRC screening from the UK NHS perspective. **METHODS:** A state-transition Markov model was constructed to simulate the lifetime experience of a cohort of individuals screened under a range of scenarios using four different CRC screening technologies: FOBT, flexible sigmoidoscopy, optical colonoscopy and CTC. The model estimated lifetime costs and health outcomes; the cost-effectiveness measure was incremental cost per Quality Adjusted Life Year (QALY). The impact of uncertainty in underlying model parameters was evaluated in one-way and probabilistic sensitivity analyses. **RESULTS:** CTC screening every 10 years for individuals aged 60–69 was less expensive and yielded greater health benefits (QALYs and life years) compared to no screening or the current UK programme of biennial FOBT screening. Compared to biennial FOBT, 10-yearly CTC screening for 60–69 year olds is estimated to avoid 661 more cases of CRC and 364 more deaths per 100,000 people invited for screening. CTC was cost-effective under a range of assumptions. The model fit to observed epidemiology data well, and was robust to changes in underlying parameter values. **CONCLUSIONS:** CTC has the potential to provide a cost-effective option for CRC screening and may be cost saving compared to the current programme of biennial FOBT.

PCN97

COST EFFECTIVENESS OF ERLOTINIB TREATMENT GIVEN BY A CLINICALLY BASED APPROACH AND AN EGFR/KRAS TESTING-GUIDED APPROACH ADVANCED IN NON SMALL-CELL LUNG CANCER: A PROSPECTIVE MULTICENTRIC FRENCH STUDY (ERMETIC)

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OBJECTIVES: Although several clinical and biological parameters are prognostic factors, their medico-economic impact in the prescription of erlotinib has never been evaluated. A French NCI prospective study aimed to determine the cost of management of advanced NSCLC patients (pts) treated by erlotinib and to evaluate the cost-effectiveness ratio in populations selected on clinical-guided or biomarkers-guided arguments. **METHODS:** Prospective cohort of consecutive advanced NSCLC pts newly treated by erlotinib and followed until progression or death. Direct medical costs, including erlotinib and hospitalization costs were computed from the health care system perspective with a time horizon of 2 years. Cost-effectiveness ratios (CER) were calculated as management cost divided by the number of days of life remaining (DOLR) when the treatment is initiated, in all patients, in clinical-selected patients (non/ex-smoking women with non-squamous cell carcinoma (SCC) histology) and in biomarker-selected patients. **RESULTS:** A total of **522 patients were enrolled between** 02/07 and 03/08. Median age was 62 years; 32% were females; 63% had adenocarcinoma. With a 15.5 months (mo.) median follow-up, median PFS and OS were respectively 2.4 and 5.6 **mo. Mean management cost was 10284** ± €8562 per patient, with a median of 170 days remaining to live at initiation of erlotinib treatment (€60 / DOLR). Direct erlotinib cost represented 78% of the cost. Non-smoking women with non-SCC histology lived 133 days longer than other patients (279 and 146 days respectively), resulting in an extra-cost management of €2637 due to a longer erlotinib treatment. CER was however lower (€44/DOLR) in non-smoking women with non SCC histology than in other patients (€66/DOLR). CER of biomarkers-selected patients will be available for the congress. **CONCLUSIONS:** Clinical-guided arguments allowed to identify patients with lower management costs per day of life remaining to live. Planned analyses would evaluate the impact of biomarkers in term of cost of management per day of life remaining.

PCN98

COST-EFFECTIVENESS OF PROGNOSIS-BASED STRATEGIES TO SELECT WOMEN WITH BREAST CANCER FOR ADJUVANT CHEMOTHERAPY

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OBJECTIVES: Adjuvant chemotherapy is used to reduce the risk of relapse after surgery. Its limited efficacy in breast cancer must be weighed against induced toxicities and cost. The selection of patients eligible for adjuvant chemotherapy is based on prognostic factors. G**enomic signatures would improve patient selection for adjuvant chemotherapy and avoid overtreatment. The aim of this study is to compare the** cost -effectiveness of different prognosis -based selection strategies in the French context. **METHODS:** We used a model -based simulation. Population characteristics, survival and hospital costs (chemotherapy, chemotherapy -induced toxicities and relapses) were estimated using a patient -level data set from a retrospective cohort of patients followed -up at Gustave Roussy Institute since 1990. All patients were node -negative and metastasis -free after initial surgery. The other model parameters (chemotherapy efficacy, sensitivity and specificity of prognosis -based selection strategies) were obtained from literature. The cost analysis was conducted from a third -party payer's perspective. We used a strategy with no adjuvant chemotherapy as a reference for cost -effectiveness comparisons. **RESULTS:** The retrospective cohort study consisted of 910 women with breast cancer. The mean age was 57 (range: 23–93). Thirty-one percent of patients were Scarff -Bloom grade I, 43% grade II and 19% grade III (7% grade missing). The mean tumor size was 19 mm (range: 1–120). Thirty-two percent of the women received adjuvant chemotherapy alone or combined with another adjuvant treatment. The median follow-up after surgery was 87 months. The median survival time was 209 months. The distant relapse rate was 10.7%. The cost of adjuvant chemotherapy was €3,083 (standard deviation: €307) and the cost of distant relapse €33,692 (range: €847–€112,710). Cost -effectiveness analysis is in progress. Results will be available for the meeting. **CONCLUSIONS:** This is the first French study to assess the cost -effectiveness of using prognostic information to select women eligible for adjuvant chemotherapy in early breast cancer.

PCN99

COST-EFFECTIVENESS ANALYSIS OF IMIQUIMOD VERSUS NO TREATMENT IN PATIENTS WITH SUPERFICIAL BASAL CELL CARCINOMA AND CONTRAINDICATION TO SURGICAL INTERVENTION/CRYOTHERAPY

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OBJECTIVES: To conduct a cost-effectiveness analysis (CEA) of imiquimod compared to no treatment in patients with superficial basal cell carcinoma and contraindication to surgical intervention and cryotherapy in Poland. **METHODS:** This analysis was based on a decision model regarding clinical effects of imiquimod in comparison to placebo (vehicle cream), obtained from randomized clinical trials. The population was defined as adult patients with superficial basal cell carcinoma (sBCC) and contraindication to surgical intervention/cryotherapy, also patients, who do not give consent to these forms of treatment. Clinical and histological complete clearance were assessed as health outcomes. Direct medical costs of the analysed therapies were estimated from the perspective of both payers in Poland (National Health Fund and patient). We included costs of medication, clinic visits and diagnostic assessments. Time horizon of the analysis was 18 weeks. Treatment was assumed as once a day 5x/week for 6 weeks. Costs and effects were not discounted. **RESULTS:** Probability of complete clearance, assessed clinically and histologically was 0.751 for patients treated with imiquimod and 0.017 when placebo was used. Probability of histological complete clearence was 0.822 and 0.031, respectively. Total costs of imiquimod therapy were estimated at 1,075.30 PLN, while costs of no treatment were 174.80 PLN. Incremental